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Total Number of Pages in This Submission

Application Number

10/600904

Filing Date

06/20/2003

First Named Inventor

Robert Sigurd Nelson

Art Unit

2882

Examiner Name

Irakli Kiknadze

Attorney Docket Number

**ENCLOSURES (Check all that apply)**

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**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name			
Signature	<i>Robert Sigurd Nelson</i>		
Printed name	Robert Sigurd Nelson		
Date	March 4, 2006	Reg. No.	

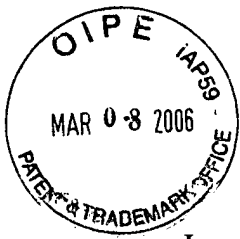
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Appl. No. : 10/600,904  
Applicants : Robert Sigurd Nelson, William Bert Nelson  
Filing Date : June 20, 2003  
Examiner : Irakli Kiknadze  
Art Unit : 2882  
Title : DEVICE AND SYSTEM FOR IMPROVED IMAGING IN NUCLEAR  
MEDICINE AND MAMMOGRAPHY

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

March 4, 2006

Dear Mr. Kiknadze:

In response to the Office Action post marked January 24, 2006, please see the following remarks for application 10/600,904.

**REMARKS**

In the office action post marked January 24, 2006 the Examiner accepted claim 59 and rejected claims 57, 58 based on Dobbs, Spitz, Kump, and Walters.

Applicants will address first the rejection of claim 57 as being anticipated by Dobbs (Pat. No. 5,444,752). Dobbs describes a means of compensating for the temperature-dependent response of a solid state detector used with a CT imaging system by exposing the detector to a broad-band (conventional) x-ray source and recording the detector response as the temperature of the detector is varied externally and thereby creating a temperature calibration table (col. 4, lines 30-33, column 6, lines 59-61 and 64-68). Dobbs' detector does not offer energy resolution but rather is a traditional integrating detector. Dobbs does not calibrate the energy spectrum of the x-ray beam as a function of position at the detector.

The inventors describe employing a x-ray detector capable of measuring the energies of photons. This means that the detector can measure not only how the intensity of the beam varies spatially but also the how the energy spectrum of the x-ray beam varies spatially. In other words, the intensity for each energy in the single x-ray beam spectrum can be measured as a function of spatial location of each detector pixel. This can be done with a single KVP x-ray beam. This single x-ray beam spectrum data set for each pixel is compared against the data set of energy and intensity acquired when imaging a patient with the same single x-ray beam spectrum. Using a detector with